



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,175	05/29/2001	Robert Pfeffer	476-1923.1	6796
7590	12/13/2005		EXAMINER	
William M. Lee, Jr.			WILSON, ROBERT W	
Lee, Mann, Smith, McWilliams, Sweeney & Ohlson				
P. O. Box 2786			ART UNIT	PAPER NUMBER
Chicago, IL 60690-2786			2661	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/867,175	PFEFFER ET AL.
	Examiner Robert W. Wilson	Art Unit 2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 September 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13 and 15-17 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

Claim Rejections - 35 USC § 103

1.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-8, 12, & 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057).

Referring to Claim 1, Rabenko teaches: Figure 2 which is a point-to-multipoint network per col. 3 line 29. The network has a headend which is connected to at least one cable modem or subscriber via HFC or shared medium per Figure 2. Packets are transmitted in TDMA time slots from the cable mode or subscriber to the CMTS which is in the headend per col. 4 lines 42-67 and as shown in Figure 2. The limitation “without segmentation of the packet” is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers and grants time slots which are inherently TDMA without segmenting the packet per col. 5 lines 15-35.

Rabenko does not expressly call for: consecutive time slots or inserting a packet of at least 575 bytes.

Rabenko teaches: adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes

It is within the level of one skilled in the art at the time of the invention to adjust parameters or to make time slots consecutive and to adjust for a packet that is at least 575 bytes.

In Addition Rabenko teaches

Regarding Claim 6, in which the at least one subscriber station is arranged to periodically receive synchronization signals transmitted from the head end-station (Fig 11 or col. 7 lines 30-36)

Regarding Claim 7, in which differential time delays arising from differing paths lengths between the head-end station and outstation are absorbed by including guard bands in the TDMA protocol (Guard bands per col. 7 line 65-col. 8 line 5)

Regarding Claim 8, in which the point-to-multipoint network is an optical network (point-to-multipoint per col. 3 line 28)

Regarding Claim 12 comprising a point to multipoint network arrangement (point-to-multipoint per col. 3 line 28)

Referring to Claim 15, Rabenko teaches. The network per Figure 2 has a headend for a point-to-multipoint network per col. 3 line 29 providing HFC or shared medium connectivity between at least one cable modem or subscriber and the headend. Packets are transmitted in TDMA time slots from the cable mode or subscriber to the CMTS which is in the headend per col. 4 lines 42-67 and as shown in Figure 2. The limitation “without the need to further segment the packet switched protocol” is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers. The limitation “without segmentation of the packet” is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers and grants time slots which are inherently TDMA without segmenting the packet per col. 5 lines 15-35.

Rabenko does not expressly call for: consecutive time slots or inserting a packet of at least 575 bytes.

Rabenko teaches: adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes

It is within the level of one skilled in the art at the time of the invention to adjust parameters or to make time slots consecutive and to adjust for a packet that is at least 575 bytes.

In Addition Rabenko teaches:

Regarding Claim 16, head end (Headend or 1013 per Fig 1 or 1012 per Fig 2)

Regarding Claim 17, Rabenko teaches: A method of operating a point-to-multipoint network per col. 3 line 29 and Figure 2.

Figure 2 has a headend which is connected to at least one cable modem or subscriber via HFC or fiber or optical or shared medium per Figure 2. Packets are transmitted in TDMA time slots from the cable mode or subscriber to the CMTS which is in the headend per col. 4 lines 42-67 and as shown in Figure 2. The limitation “without segmentation of the packet” is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modems or subscribers and grants time slots which are inherently TDMA without segmenting the packet in order for the system to transfer the packets per col. 5 lines 15-35.

Rabenko does not expressly call for: consecutive time slots or inserting a packet of at least 575 bytes.

Rabenko teaches: adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes

It is within the level of one skilled in the art at the time of the invention to adjust parameters or to make time slots consecutive and to adjust for a packet that is at least 575 bytes.

Claim Rejections - 35 USC § 103

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057) in view of Data-over-Cable Service Interface Specification

Referring to claim 2, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the packet-switched transport protocol employs packets formatted according to an Ethernet protocol

Data-over-Cable Service Interface Specification teaches: in which the packet-switched transport protocol employs packets formatted according to an Ethernet protocol (Pgs 11-20 and 47-54)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the Ethernet protocol of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant.

Referring to claim 3, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the packet-switched transport protocol is arranged to carry Internet Protocol data

Data-over-Cable Service Interface Specification teaches: in which the packet-switched transport protocol is arranged to carry Internet Protocol data (Pgs 1-2, 11-12, & 16)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the Internet protocol of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant.

Referring to claim 4, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the packet-switched transport protocol is arranged to carry unsegmented Ethernet frames

Data-over-Cable Service Interface Specification teaches: in which the packet-switched transport protocol is arranged to carry unsegmented Ethernet frames (The examiner has interpreted segmentation as the cutting up of Ethernet packets before they are inserted into the MAP PDU. On Pg 53 in Para 6.2.2 the spec teaches that the MAC sublayer must be able to support a variable-length Ethernet type PDU across the whole network in its entirety per Pg 53. The examiner interprets this to mean that the Ethernet PDU does not need to be segmented)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the unsegmented Ethernet of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant.

Referring to claim 5, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets

Data-over-Cable Service Interface Specification teaches: in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets (MPEG, Ethernet, or ATM per Pgs 49-57 or multiple packet protocols)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the multiple packet-switched transport of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant

Referring to claim 11, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for in which each subscriber station is allocated to one of a plurality of groups, each group transmitting on a distinct physical channel

Data-over-Cable Service Interface Specification teaches: in which each subscriber station is allocated to one of a plurality of groups, each group transmitting on a distinct physical channel (Channel ID or distinct physical channel per Pg 75)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add plurality of groups of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant

Claims 9 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057) in view of WO 98/44758

Referring to claim 9, Rabenko teaches: A point-to-multipoint network according to claim 8,

Rabenko does not expressly call for: in which the optical network is a passive optical network

WO 98/44758 teaches: in which the optical network is a passive optical network (PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON of WO 98/44758 in the network of Rabenko because it is a type of Fiber optic network.

Referring to claim 13, Rabenko teaches: telecommunication access network of claim 1

Rabenko does not expressly call: comprising a telecommunications access network comprising a passive optical network arrangement

WO 98/44758 teaches: in which the optical network is a passive optical network (PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON of WO 98/44758 in the network of Rabenko because it is a type of Fiber optic network.

Referring to claim 14, Rabenko teaches: telecommunication network of claim 1

Rabenko does not expressly call for: telecommunications network comprising a passive optical network arrangement

WO 98/44758 teaches: passive optical network arrangement per Pg 3 lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON of WO 98/44758 in the network of Rabenko because it is a type of Fiber optic network.

3.0 Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057)

Referring to claim 10, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the point-to-multipoint network is one of a wireless network and a high speed copper network

Rabenko teaches: HFC Network per Fig 2

It would have been obvious to one of ordinary skill in the art at the time of the invention that the Hybrid Fiber Copper network is another name for a high speed copper network.

Response to Amendment

3.0 Applicant's arguments filed 9/26/05 have been fully considered but they are not persuasive.

The examiner respectively disagrees with the applicant's arguments.

In claims 1 & 15 the applicant claims that the subscriber station transmits data that was previously segmented. The examiner interprets this to mean that the packets were not segmented by the subscriber station. The applicant's argument that the Rabenko does not teach "stretching the TDMA to enable segmented to be avoided for such a long packet, nor any of the advantages of sending such long packet without segmentation" is not relevant because it is not the claimed invention. Applicant argument that Rabenko does not indicate the duration of the time intervals can be chosen also is not relevant because it is also not a claim limitation.

The applicant's claim limitation in claims 1, 15, & 17 is "a number of consecutive time slots are allocated to each subscriber station and that the subscriber inserts a 575 byte packet into the consecutive time slots". There is no limitation for "stretching a TDMA protocol to enable segmentation to be avoided for such a long packet" nor is there a limitation "any of the advantages of sending such a long packet without segmentation" nor is there a limitation "specifying the maximum size of packets that can be sent without resorting to segmentation". The applicant has not specified a claim limitation "expanding a frame of TDMA protocol". The applicant has not claimed any of these limitations; consequently, the argument is not relevant.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

4.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571/272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2661

Robert W. Wilson

Robert W Wilson
Examiner
Art Unit 2661

RWW
12/6/05

Bob Phunkulh
BOB PHUNKULH
PRIMARY EXAMINER